

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007039**Date Inspected:** 16-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei / Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Components**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

OBG Sub-Assembly Bay 12:

The QA Inspector randomly observed ZPMC welder Liu Xie ID 066236, utilizing the Flux Cored Arc Welding (FCAW) Process in the 3G (Vertical Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2233-B-U2a, to weld U-Rib Extensions to U-Ribs at Weld Joint (WJ) Numbers 069 and 087, on Deck Plate 1AW-DP590-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs to Deck Plate 1AW-DP560-001 at Complete Joint Penetration (CJP) Weld Joint (WJ) Numbers 013. 1AW-DP560-001 is placed upside down with heat being applied directly to the WJ 013 attaching a T=35 mm I-Rib on Deck Plate 1AW-DP560-001. The QA Inspector randomly observed that jacks were in place between the I-Ribs, but no counter weights. This work was being performed in accordance with ZPMC Heat Straightening Request (HSR), HSR (B)-249 Rev. 0.

The QA Inspector randomly observed 1 ZPMC helper utilizing a pencil grinder to blend the copes after weld

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repairs, in the T=35 mm I-Ribs at the U-Rib ends on Deck Plate 1AE-DP585-001.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend R2 repaired areas in the welds attaching the T=35 mm I-Ribs to the base plate on Deck Plate 1AE-DP585-001.

The QA Inspector randomly observed 1 ZPMC helper utilizing a pencil grinder to blend the copes after weld repairs, in the T=35 mm I-Ribs at the U-Rib ends on Deck Plate 1AW-DP545-002.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder to blend repaired areas in the welds attaching the T=35 mm I-Ribs to the base plate on Deck Plate 1AE-DP560-001.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend R2 repaired areas in the welds attaching the T=35 mm I-Ribs to the base plate on Deck Plate 1AW-DP555-001.

The QA Inspector randomly observed ZPMC welder Yang Yong Zeng ID 059418, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW -2G (2F), to weld a repair to WJ 030, attaching a T=35 mm I-Rib to a U-Rib on Deck Plate 1AW-DP545-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 280 amps, 29.8 volts with a travel speed of 500 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Hang Hong Wen ID 200149, utilizing the FCAW Process in the 3G/3F (Vertical Groove/Vertical Fillet) Positions with ZPMC WPS WPS-345-FCAW -3G (3F), to weld a repair to WJ 097, attaching a T=35 mm I-Rib to the U-Rib closure diaphragm on Deck Plate 1AW-DP540-001. This work is being performed in accordance with ZPMC Weld Repair Request B-WRR2342. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Liu Xie ID 066236, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-B-T-2232-TC-U4b-F-1, to weld U-Rib Extensions to Deck Plate 1AW-DP590-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 280 amps, 27.2 volts with a travel speed of 466 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the FCAW Process in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-2233-B-U2a to tack weld backing bars to U-Ribs to allow for the fit up of U-Rib Extensions, on Deck Plate 1AW-DP545-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the Gas Metal Arc Welding (GMAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2342-U5 (U-Rib) to tack weld and weld the root pass on the U-Rib Extensions to the base plate of Deck Plate 1AW-DP545-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with

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contract requirements.

The QA Inspector randomly observed ZPMC welder Yang Yong Zeng ID 059418, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW -2G (2F), to weld repairs to U-Ribs at WJ's 001 through 010 on Deck Plate 1AW-DP555-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector performed a 100% Visual Inspection and a random Magnetic Particle Testing (MT) Verification of WJ's 012, 014, 016 (2G/2F), 251, 252, 253 and 254 (3G/3F), attaching T=35 mm I-Ribs to the base plate (012 - 016) and U-Rib Closure Diaphragm (251-253) of Deck Plate 1AE-DP610-001. There appeared to be no indications and the QA Inspector accepted the above listed welds.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

No relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
